

RECLAMATION

Managing Water in the West

Big Lagoon Rancheria Water Supply Wells

Big Lagoon Rancheria, California

Final Environmental Assessment and Finding of No Significant Impact



Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

**UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION**

MID-PACIFIC REGION

SACRAMENTO, CALIFORNIA

FINDING OF NO SIGNIFICANT IMPACT

Big Lagoon Rancheria Water Supply Wells

FONSI 10-27-MP

Recommended by:




Tamara LaFramboise
Natural Resource Specialist
Mid-Pacific Regional Office

Date:

7/30/10

Concurred by:

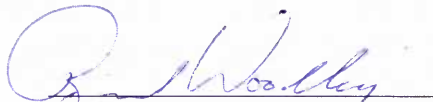


Kevin Clancy
ARRA Program Manager
Mid-Pacific Regional Office

Date:

7/30/2010

Approved by:



Richard Woodley
Regional Resources Manager
Mid-Pacific Regional Office

Date:

7/30/2010



RECLAMATION
Managing Water in the West

FINDING OF NO SIGNIFICANT IMPACT

Big Lagoon Rancheria Water Supply Wells

In accordance with Section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969, as amended, the Mid-Pacific Regional Office of the Bureau of Reclamation (Reclamation), has determined that providing funds to install two wells for domestic use for the Big Lagoon Rancheria (Tribe) is not a major federal action that would significantly affect the quality of the human environment and an Environmental Impact Statement (EIS) is not required. This Finding of No Significant Impact is supported by Reclamation's Draft Environmental Assessment (EA), *Big Lagoon Rancheria Water Supply Wells*, and is hereby incorporated by reference.

BACKGROUND

Pursuant to the *State's Emergency Drought Relief Act of 1991*, as amended (Drought Act), the Bureau of Reclamation (Reclamation) is distributing \$40 million from the American Recovery and Reinvestment Act (ARRA) (P.L. 111-5) to fund emergency drought relief projects. In February 2009, while the State of California was in the third consecutive year of a drought, Governor Schwarzenegger declared a drought emergency.

The Tribe is suffering from the prolonged drought and experiencing severe effects to the health and safety of tribal members. The Tribe has requested Reclamation's assistance for the purpose of installing two production wells to ensure water delivery for domestic uses.

FINDINGS

Reclamation has prepared an EA which analyzes the impacts of the Proposed Action. Based on the analysis in the EA, Reclamation has found that the installation of two production wells at the Big Lagoon Rancheria would not result in significant impacts to the environment and does not require the preparation of an EIS. This Finding of No Significant Impact is based upon the following:

Wildlife and Vegetation – Site #2 of the Proposed Action area has previously been disturbed; Site #1 is not currently developed will require removal of vegetation. Each well site would be temporarily disturbed (approximately 2,500 square feet). Approximately 225 square feet of annual grassland would be permanently loss at each well site. The vegetation community is common locally and regionally and is not a sensitive resource. The project area lacks documented observations of federally-listed special-status species. The Proposed Action would have no impact on special-status species. The Proposed Action would result in the temporary disturbance of vegetation and wildlife. Approximately 450 square feet (total) (0.01acre) of annual grasses would be permanently removed. The Proposed Action will not result in significant adverse impacts to wildlife and vegetation.

Cultural Resources - The Proposed Action has the potential to affect cultural resources on the Rancheria. Since Reclamation determined that no historic properties will be affected, no cultural resources would be impacted as a result of implementing the Proposed Action. Reclamation consulted with the SHPO, as well as with the Big Lagoon Rancheria on the same basis as the

SHPO since this project is located on Tribal lands, regarding this determination. Concurrence from the SHPO and Big Lagoon Rancheria is pending. The project will not be implemented until the Section 106 compliance process has been completed.

Water Resources – The Proposed Action would include drilling the well to a depth that would not result in surface water influence and, therefore, would not result in short-term or long-term adverse impacts to surface water or resources dependent on surface water. Construction activities include drilling, and minor trenching which have the potential to increase sedimentation into surface waters. Best management practices will be implemented. A buffer of 150 feet will be maintained adjacent to the unnamed Class II water course in site #1.

The wells would be managed to ensure water use efficiency and water conservation and would pump a minimal amount (up to 30 gallons per minute/well) of water in the area, therefore; the Proposed Action would not result in adverse impacts to groundwater resources.

Indian Trust Assets - The nearest ITA is the Big Lagoon Rancheria and therefore, the Proposed Action would not significantly impact ITAs.

Environmental Justice - The Proposed Action would not disproportionately affect minorities or low-income populations and communities. The Proposed Action would benefit the tribe, a minority population. There would not be significant impacts to human health or environmental effects associated with the Proposed Action.

Global Climate Change - The Proposed Action would not include any significant change on the composition of the atmosphere and therefore would not result in significant impacts to climate change.

Cumulative Impacts – The Proposed Action would not result in significant cumulative impacts to surface water resources, groundwater resources, geology and soils, land use, biological resources, cultural resources, ITAs, environmental justice, or global climate change.

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1.0 Purpose and Need

1.1 Introduction

Under the *State's Emergency Drought Relief Act of 1991* as amended (Public Law [P.L.] 109-234), the Bureau of Reclamation (Reclamation) is distributing \$40 million from the American Recovery and Reinvestment Act (ARRA) (P.L. 111-5) to fund emergency drought relief projects. In February 2009, while the State of California was in its third consecutive year of drought, Governor Arnold Schwarzenegger declared a drought emergency.

The Big Lagoon Rancheria (Tribe) is listed by the Bureau of Indian Affairs (BIA) as Indian Entities Recognized and Eligible to Receive Services from the United States BIA. The Rancheria consists of approximately 21 acre trust property, a five acre fee parcel (fee to trust application currently pending), a 12 acre fee parcel, and a four acre fee parcel. The trust property is located adjacent to the natural Big Lagoon, with all fee parcels within a ¼ to ½ mile of the trust property.

1.2 Purpose and Need

The purpose of the project is for Reclamation to provide ARRA funds to the Tribe for the development of two production wells at two different sites. The wells would supply water for domestic use to Tribal residents.

The Tribe's main water supply system was developed in 1972 and consist of a well approximately 40 feet deep, a ½ horsepower water pump, water treatment system, and two storage tanks on the 21 acre site. The water from this well is treated due to high concentrations of iron. The water system is managed and maintained by the Tribe, with assistance of local plumbing and electric company. In addition, the existing well consistently goes dry during the summer months, thereby creating delivery problems. The second well would supply water to three new residences on the five acre site. The five acre site does not have an existing production well.

This environmental assessment (EA): (1) describes the existing environmental resources in the project area; (2) evaluates the effects of the alternatives (including the Proposed Action) on the resources; and, (3) proposes measures to avoid, minimize, or mitigate any adverse effects. This EA is in compliance with the National Environmental Policy Act (NEPA) and Council on Environmental Quality (CEQ) regulations (40 CFR 1500-1508). Reclamation has also prepared a Finding of No Significant Impact (FONSI) which explains why the Proposed Action will not have significant effect on the human environment.

*The terms Tribe and Rancheria will be used interchangeably throughout this document

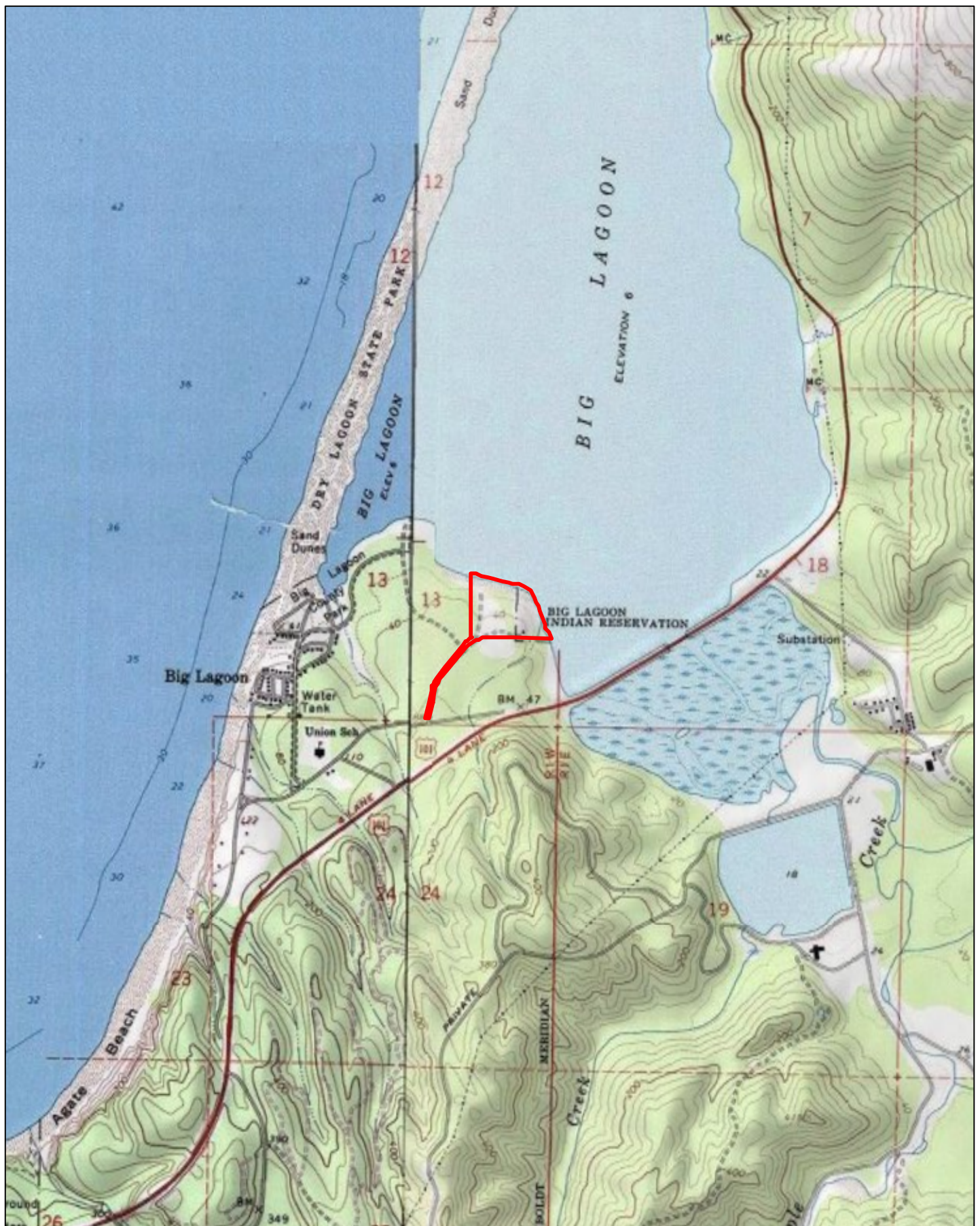
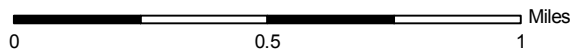


Figure 1

Big Lagoon General Location Map



1:24,000



2.0 Alternatives

2.1 Alternative 1 - No Action

Under the No Action alternative, Reclamation would not provide funds to the Tribe under ARRA for the development of two production wells to supply water for domestic use.

2.2 Alternative 2 - Proposed Action

The Proposed Action is for Reclamation to provide ARRA funds to the Tribe for the purposes of developing two production wells at two different locations. The production wells would be used to supply water for domestic use.

Work Period. Work under the Proposed Action would take place prior to December 1, 2010, or prior to September 30, 2011. The work is anticipated to take 60 to 90 days to complete.

Well details. The Tribe has identified two locations for the new wells (Figure 2). Site #1 is a five acre fee property, with a fee to trust application pending and, site #2 is located on the current 21 acre trust site of the Rancheria. Since project level design plans for the test wells have not been completed, this EA consider the worst-case scenario.

Site #1 coordinates on the 5 acre tribal fee site are 41°09'22.17"N and 124°07'39.68"W. The coordinates for site #2, on the 21 acre trust property, are 41°09'47.52"N and 124°07'13.63"W. The potential location of a new well on site #2 is within 30 yards of the existing main well. Both wells would be developed in the same manner as detailed below.

The Proposed Action involves drilling two wells 250 feet deep that would provide up to 20-30 gpm/site of water for domestic use. The contractor would 1) drill a nominal 16-inch diameter hole from 0 to 50 feet; install and grout 12-inch diameter steel conductor casing from 0 to 50 feet; 2) drill a nominal 6-inch diameter pilot hole from 50 to 250 feet deep; 3) geophysically log hole; 4) determine if the hole shows potential for producing a sufficient quantity of water. If not, determine whether to drill deeper or abandon; 5) if hole shows potential for producing sufficient quantity of water, ream hole to nominal 10-inch diameter from 50-250 feet; 6) install 6-inch diameter screen or perforated casing with a 10-foot-long blank sump and end cap attached to the bottom from approximately 70 to 250-feet deep and 6-inch-diameter blank casing from the top of the screened interval to the surface; 7) install filter pack from the bottom of the hole to the bottom of the conductor casing; 8) clean and develop the well using industry standards adding filter pack as necessary to maintain the level; 9) install bentonite and grout plug to seal from top of filter pack to surface; 10) conduct 24-hour minimum pump test or other appropriate pump tests dependent on groundwater conditions, including 8-hours of recovery; all well tests are required to meet all regulatory requirements; 11) furnish and install a submersible pump capable of delivering sustainable yield as determined from the pump test, motor controller, drop pipe, sound tube, and related infrastructure necessary for operation of the well; 12) disinfect the well according to industry standards; 13) perform water quality tests by an Environmental Protection

Agency certified laboratory; 14) construct a minimum 4-inch thick concrete pad around the well head that extends at least two feet laterally in all directions, sloped to drain surface water away from the well (concrete shall be 3000 psi or stronger); 15) coordinate details of site access, connection, outages, and scheduling with other contractors, local agencies, and users. Well construction shall comply with California's Department of Water Resources Well Standards. This EA considers the worst-case scenario because no project-level design has been prepared for Proposed Action.

Typical construction equipment at both locations could include drill rig, backhoe, grader, and construction vehicles. No construction would occur within streams, riparian corridors or wetlands, and a minimum 200 foot buffer would be maintained adjacent to these areas. A chlorination system would be installed to decontaminate the water and ensure suitability for potable uses.

The well at site #1 would require improvements to the existing access road and clearing of the well area. All trees and brush within 20 feet of the proposed well site would be cleared and removed. A well house would be constructed at site #1. The structure would be approximately 8-foot-wide, 10-foot-long, and 10-foot high to protect a new hydropneumatic tank (minimum 500 gallon) and chlorination system. The access road from Big Lagoon Park Road to the proposed well location would be cleared and graded to allow access by drill rig and Pacific Gas & Electric (PGE) installation equipment. Staging for construction equipment would require approximately 2,500 square feet.

Electrical Power. The Tribe presently receives power from Pacific Gas and Electric.

Site #1. Electrical lines run along the Big Lagoon county road exit adjacent to site #1, and can easily be extended to supply electricity to the new well site. The Tribe would coordinate with the PG&E regarding service application. It would be necessary to install up to 2 new power poles from the Big Lagoon Park Road to deliver electricity to the well at site #1.

Site #2. Electrical lines already exist on site #2 and would be utilized to provide electricity to the new well and tank. Electrical installation would require a utility trench, anticipated to be 3 feet deep, 6 inches wide, and approximately 100 feet long, that would begin at the existing storage tank and shall extend to the new well. Once electrical equipment is placed, soil would be placed back on top and compacted.

Water Delivery. Both sites #1 and #2 would require PVC piping placement for water delivery. A utility trench would be dug at both locations approximately 3 feet deep, 6-inches wide and 35 feet (site #1) and 100 feet (site #2) beginning at the well and extending to storage tanks. as well as a 3,000 gallon storage tank for fire protection would be installed. At site #2, the trench would begin at the well house and extend to the existing water storage tank. The PVC piping at both locations would accommodate the delivery of water from the well to storage. The trench at site #2 would also house a pipeline for future connection. The piping would be capped until future connection is possible.



Figure 2

Big Lagoon Proposed Well Locations



1:6,000

Date: July 26, 2010
File Name: P:\mpg\is_erobbins\Arcmap\BigLagoon_Tammy\BigLagoon.mxd

0.1 0.05 0 0.1 Miles



3.0 Affected Environment & Environmental Consequences

3.1 Resources Considered

Evaluation of the Proposed Action indicates the following resources could be affected by the project:

- wildlife and vegetation
- cultural resources
- water resources
- climate change
- environmental justice
- Indian Trust Assets

Analysis of effects is based upon NEPAs *context* and *intensity* as described in 40 CFR 1508.27.

3.2 Resources Not Analyzed in Detail

Evaluation of the Proposed Action indicates that there would be little to no indirect, direct or cumulative effects on several resources. The resources include:

- air quality
- geology and soils
- hazards and hazardous materials
- noise
- mineral resources
- traffic and transportation
- recreation
- agricultural resources
- land use
- public services
- utilities
- socioeconomics
- surface water resources

As a result, these resources are not discussed further in this EA.

3.3 Wildlife and Vegetation

3.3.1 Affected Environment

Setting. The Big Lagoon Rancheria is located near the city of Big Lagoon, an unincorporated area of Humboldt County, at Township 9N, Range 1W, Section 13, USGS 7.5 minute quadrangle Rodgers Peak. The area is characterized by rural residential and timber management land use patterns. Surrounding land-use patterns include recreation, residential, and industrial timber management.

Site #1 is a five acre parcel located approximately ½ mile from the Rancheria. A test well exists on the property. The land use at this site would ultimately be developed with residential dwellings. The site contains dense brush, and a limited access road from the main county road.

Site 2 is located on the 21 acre Big Lagoon Rancheria trust property. The Rancheria trust property currently consists of eight permanent homes, one community water treatment building with two storage tanks, on tribal cemetery, and secondary well, a new leach field area, and designated recreational/cultural/economic development areas

Land use in the region is rural, residential and timber management. Habitats for bald eagle, marbled murrelet, northern spotted owl, western yellow-billed cuckoo, and pacific fisher were identified at the site #1.

Vegetation. The predominant vegetation community in the project area is the red alder, combined with weedy vegetation such as English plantain (*Plantago major*) and Bermuda grass (*Cynodon dactylon*). The Rancheria is a mixture of development and patches of red alder (*Albus rubra*), willow (*Salix spp.*), some grand fir (*Abies grandis*), and Sitka spruce (*Picea sitchensis*). The understory can be open, but is typically more closed, and usually consists of Sitka spruce, cascara (*Rhamnus purshiana*), salmonberry (*Rubus spectabilis*), California bramble (*Rubus ursinus*), red elderberry (*Sambucus racemosa* var. *racemosa*), and, coyote brush (*Baccharis pilularis*). Groundcover along roadways and in developed areas includes non-native plants including Pampas grass (*Cortaderia selloana*), Himalayan blackberry (*Rubus armeniacus*) and annual grasses.

Wildlife. The Rancheria is a developed area although there are patches of tree cover that can provide limited nesting and foraging for wildlife. Mammals that may forage in the project area include the raccoon (*Procyon lator*) and striped skunk (*Mephitis mephitis*). Other animals which could use the project area for foraging include the western garter snake (*Thamnophis elegans*), red-tailed hawk (*Buteo jamaicensis*), Stellar's jay (*Cyanocitta stelleri*), and northern red-legged frog (*Rana aurora aurora*), and Pacific chorus frog (*Pseudacris regilla*).

Special-Status Species. The California Natural Diversity Database (CNDDB) and U.S. Fish and Wildlife Service websites were reviewed for the potential occurrence of federally-listed special-status species. No federally-listed special-status species have been recorded within the project area. There is no designated critical habitat in the project area (CNDDB, 2010; USFWS, 2010).

Listed/Proposed Threatened and Endangered Species for
the RODGERS PEAK Quad (Candidates Included)

July 23, 2010

Document number: 248321537-12654

KEY:

(PE) Proposed Endangered Proposed in the Federal Register as being in danger of extinction

(PT) Proposed Threatened Proposed as likely to become endangered within the foreseeable future

(E) Endangered Listed in the Federal Register as being in danger of extinction

(T) Threatened Listed as likely to become endangered within the foreseeable future

(C) Candidate Candidate which may become a proposed species Habitat Y = Designated, P = Proposed, N = None Designated

* Denotes a species Listed by the National Marine Fisheries Service

Type	Scientific Name	Common Name	Category	Critical Habitat
Invertebrates				
*	<i>Haliotis cracherodii</i>	black abalone	PE	N
Fish				
*	<i>Acipenser medirostris</i>	green sturgeon	T	Y
	<i>Eucyclogobius newberryi</i>	tidewater goby	E	Y
*	<i>Oncorhynchus kisutch</i>	S. OR/N. CA coho salmon	T	Y
*	<i>Oncorhynchus mykiss</i>	Northern California steelhead	T	Y
*	<i>Oncorhynchus tshawytscha</i>	CA coastal chinook salmon	T	Y
Reptiles				
*	<i>Caretta caretta</i>	loggerhead turtle	T	N
*	<i>Chelonia mydas (incl. agassizi)</i>	green turtle	T	N
*	<i>Dermochelys coriacea</i>	leatherback turtle	E	Y
*	<i>Lepidochelys olivacea</i>	olive (=Pacific) ridley sea turtle	T	N
Birds				
	<i>Brachyramphus marmoratus</i>	marbled murrelet	T	Y
	<i>Charadrius alexandrinus nivosus</i>	western snowy plover	T	Y
	<i>Coccyzus americanus</i>	Western yellow-billed cuckoo	C	N
	<i>Phoebastria albatrus</i>	short-tailed albatross	E	N
	<i>Strix occidentalis caurina</i>	northern spotted owl	T	Y
	<i>Synthliboramphus hypoleucus</i>	Xantus's murrelet	C	N
Mammals				
*	<i>Balaenoptera borealis</i>	sei whale	E	N
*	<i>Balaenoptera musculus</i>	blue whale	E	N
*	<i>Balaenoptera physalus</i>	fin whale	E	N
*	<i>Eumetopias jubatus</i>	Steller (=northern) sea-lion	T	Y

	<i>Martes pennanti</i>	fisher, West Coast DPS	C	N
*	<i>Megaptera novaengliae</i>	humpback whale	E	N
*	<i>Physeter macrocephalus</i>	sperm whale	E	N

3.3.2 Environmental Consequences

No Action

Under the No Action alternative, Reclamation would not provide ARRA funds to the Tribe for the purposes of developing wells to supply water for domestic use. There would be no impacts to wildlife and vegetation under the No Action alternative.

Proposed Action

The Proposed Action would allow Reclamation to provide ARRA funds to the Tribe for the purposes of developing wells to provide water for domestic use.

Vegetation. Although the Rancheria is primarily developed, there are patches of tree cover and annual grasses. Site #1 hosts more tree cover and annual grasses, as it is currently undeveloped. Areas identified for the wells are made up of primarily annual grasses and coniferous forest revegetation. The site #1 area has been subject to numerous timber harvest operations with the latest being conducted under a clear cut timber harvest plan dated December 14, 1993. After the last timber harvest, site #1 has regenerated primarily with red alder, salal, and manzanita. However a band of regenerated coniferous forest approximately 20 meters wide runs along the southeastern border adjacent to Highway 101. The forest surrounding an unnamed class II watercourse (at the southern end of the parcel) is older than other forest habitat on the property, but all of the forest patches are second growth and none are older than 100 years. The Proposed Action would require removal of the regenerating vegetation on the property. No new roads would be needed to access the test well sites, however, clearing, grading and grubbing the existing access road, and the well location at site #1, would result in the permanent removal of regenerating forestation and annual grasses. This vegetation is in an early stage of forest development; the canopy is less than 4 meters tall in the alder dominated areas and less than 2 meters tall in the shrub dominated areas. A segment approximately 40 feet in length and 60 feet (totaling 2,400 square feet) in width of trees and grassland at site #1 would be cleared to perform the installation work. This habitat is not sensitive, but project implementation would permanently remove some of this habitat from site #1. Specifically, the permanent clearing would include storage facility, an electric pole, and a storage tank, totaling 350 square feet. Site #2 is within the Rancheria boundaries and adjacent to coastal coniferous forest. Site #2 hosts a greater level of development and would not require tree removal. Each well site would be temporarily disturbed (approximately 2,500 square feet). Approximately 225 square feet of annual grassland would be permanently loss at each well site. The vegetation community is common locally and regionally and is not a sensitive resource. During construction, personnel and equipment would cause minor disturbances to vegetation in the immediate area of the well sites.

Wildlife. Due to the developed nature of the Rancheria, larger animals are likely to use the project area only for foraging purposes. Site #1 may have a greater wildlife population since it is not currently developed. During construction, there would be a short-term increase in equipment and personnel, which would cause minor disturbances to wildlife. Most animals would likely avoid foraging in the project area during construction. Site #2 is located adjacent to existing roads and development, therefore wildlife is unlikely to nest or den there. After work is completed, wildlife is likely to return to both areas to forage. A small number of trees may need to be removed to provide access to site #1. Removing the trees could impact nesting migratory birds, if present. Preconstruction surveys would be conducted by Rancheria environmental staff, and appropriate measures implemented to minimize or avoid impacts to nesting birds.

Special-Status Species. The project area lacks documented observations of federally-listed special-status species. The Proposed Action would have no impact on special-status species.

Cumulative Effects

The Proposed Action would allow Reclamation to provide ARRA funds to the Tribe for the purposes of developing wells to supply water for domestic use. The Proposed Action would result in the temporary disturbance of vegetation and wildlife. Approximately 450 square feet (total) (0.01acre) of annual grasses would be permanently removed. The Proposed Action would have no significantly cumulative impacts on wildlife and vegetation.

3.4 Cultural Resources

3.4.1 Affected Environment

A cultural resource is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation that outlines the Federal Government's responsibility to cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion on the National Register of Historic Places (NRHP). Those resources that are on, or eligible for inclusion on, the NRHP are referred to as historic properties.

The Section 106 process is outlined in the Federal regulations at 36 Code of Federal Regulations (CFR) Part 800. These regulations describe the process that the Federal agency (Reclamation) takes to identify cultural resources and the level of effect that the proposed undertaking would have on historic properties. In summary, Reclamation must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action to affect historic properties, Reclamation must identify the area of potential effects (APE) (Figure 2), determine if historic properties are present within that APE, determine the effect that the undertaking would have on historic properties, and consult with the State Historic Preservation Office (SHPO), to seek concurrence on Reclamation's findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with

individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

In an effort to identify historic properties, a Reclamation Archaeologist searched the cultural resources files located at the Bureau of Indian Affairs. Three cultural resources inventory reports by Peak (1982), Roscoe (1988), and Eidsness (2006) encompass the Project Area. Reclamation contracted ICF International, who conducted cultural resources surveys of the Project Area on June 28, 2010. No cultural resources were identified (Crawford 2010).

Consultation. Reclamation sent a letter to the Big Lagoon Rancheria on May 4, 2010 to invite their assistance in identifying sites of religious and cultural significance pursuant to the regulations at 36 CFR 800.3(f)(2) and 36 CFR Part 800.4(a)(4). Reclamation consulted with the State Historic Preservation Officer (SHPO) on July 29, 2010 regarding a findings of no historic properties affected pursuant to 36 CFR Part 800.4(d)(1). Reclamation also consulted with the Big Lagoon Tribe on July 27, 2010 on the same basis as the State Historic Preservation Officer pursuant to the regulations at 36 CFR Part 800.3(d) since this project is located on Tribal lands. Concurrence from the SHPO and Cedarville Rancheria to conclude the Section 106 compliance process is pending.

3.4.2 Environmental Consequences

No Action

Under the No Action alternative, Reclamation would not provide funds under ARRA for the purposes of establishing two new wells. Conditions related to cultural resources would remain the same as existing conditions. There would be no impacts to cultural resources under the No Action alternative.

Proposed Action

The Proposed Action has the potential to affect cultural resources on the Rancheria. Since Reclamation determined that no historic properties will be affected, no cultural resources would be impacted as a result of implementing the Proposed Action. Reclamation consulted with the SHPO on July 29, 2010, as well as with the Big Lagoon Rancheria on July 27, 2010 on the same basis as the SHPO since this project is located on Tribal lands, regarding this determination. Concurrence from the SHPO and Big Lagoon Rancheria is pending. The project will not be implemented until the Section 106 compliance process has been completed.

Cumulative Effects

The Proposed Action has the potential to affect cultural resources on the Rancheria. Since Reclamation determined that no historic properties will be affected, no cultural resources would be impacted as a result of implementing the Proposed Action. Reclamation consulted with the SHPO on July 29, 2010, as well as with the Big Lagoon Rancheria on July 27, 2010 on the same basis as the SHPO since this project is located on Tribal lands, regarding this determination.

Concurrence from the SHPO and Big Lagoon Rancheria is pending. The project will not be implemented until the Section 106 compliance process has been completed.

3.5 Water Resources

3.5.1 Affected Environment

Big Lagoon is located on the Northern California Pacific Coast within the Coast Range Geomorphic Province of Northern California. The regional bedrock geology consists of complexly folded, faulted, sheared and altered bedrock. Other geologic units present at Big Lagoon and the project vicinity include surficial geologic units including deposits of alluvium, non-marine sediment and colluvial deposits and marine terrace deposits. The project site is a 5-acre parcel located near Big Lagoon in Humboldt County, California (Figure 1). Big Lagoon is a predominantly saline coastal lagoon located mid-way between the towns of Trinidad and Orick. It has a tributary watershed area of approximately 55 square miles that extends inland about 10 miles, with elevations reaching 2,000 feet above sea level. The main tributary stream in the watershed is Maple Creek, which flows generally in a southeast direction and entering at the southeastern corner of Big Lagoon.

Rainfall in the area is associated primarily with storms from the Pacific Ocean, with about 90 percent of the precipitation occurring during the months of October through April. The annual rainfall in the project area averages about 50 inches per year, with lower amounts along the immediate coast, and increasingly greater amounts inland at the higher elevations in the watershed. Based upon stream gauge records for the Little River watershed immediately to the south, the annual runoff into Big Lagoon is estimated to be in the order of approximately 123,000 acre-feet. The proposed site is well above the 100 year flood plain.

Surface water. There are no major surface water resources near site 2. There is an unnamed class II water course on the southern boundary of site #1.

Wetlands. There are no wetlands present in the area.

Groundwater. The project area is in the Big Lagoon groundwater basin located approximately 10-miles north of Arcata. The basin deposits consist of Marine terrace deposits which extend inland between 1- to 2.5- miles. The deposits are predominantly massive, semi-consolidated clay, silt, sand and gravel and range in thickness from one to 140 feet. Annual precipitation in the Big Lagoon area is moderate to high from 53- to 65-inches per year.

Estimates of groundwater extraction are based on a survey conducted by the California Department of Water Resources in 1996. The survey included land use and sources of water. Estimates of groundwater extraction for municipal/industrial are 240 acre-feet. Deep percolation from applied water is estimated to be 210 acre-feet (DWR, 2004).

3.5.2 Environmental Consequences

No Action

Under the No Action alternative Reclamation would not provide ARRA funds to the Tribe for the purposes of developing wells to supply water for domestic use. There would be no impacts to water resources under the No Action alternative.

Proposed Action

Development of the two new wells would cause a small increase (20-30 gpm) in groundwater usage. The wells would not be operating 24 hours a day, 365 days/year. Instead, some water would be stored in tanks and those tanks would routinely be filled depending on water usage. Neighboring wells are located approximately ½ mile from site #2, at the Big Lagoon Elementary School, with another system at the Big Lagoon Community Development Corporation. The site #1 well is located on the Rancheria trust property, with a standby well located approximately 200 yards from the older main well. The Tribe has established a no development area within 150 feet of the class II watercourse. Initially, the well at site #1 would only be operational to fill the 3,000 gallon fire suppression storage tank and would not have a major impact on groundwater or surface water. It is not anticipated that activities associated with the Proposed Action would have a significant effect on surface or groundwater resources.

The Proposed Action would allow Reclamation to provide ARRA funds to the Tribe for the purposes of developing two wells to supply water for domestic use. The construction of two new production wells would result in a negligible increase in draft from the available groundwater. As proposed, the wells would be used to supply water for domestic use. As a result, there would be a minor impact on water resources.

Cumulative Effects

The Proposed Action would allow Reclamation to provide ARRA funds to the Tribe for the purposes of developing two new wells to supply water for domestic use. Implementation of the Proposed Action would result in a negligible increase in the amount of draft of groundwater. The project area has high precipitation rates and soils are conducive to rapid re-charge. The Proposed Action would have no significantly cumulative impacts on water resources.

3.6 Climate Change

3.6.1 Affected Environment

The United Nations Intergovernmental Panel on Climate Change predicts that changes in the earth's climate will continue through the 21st century and that the rate of change may increase significantly in the future because of human activity. Many researchers studying California's climate believe that changes in the earth's climate have already affected California and will continue to do so in the future. Climate change may seriously affect the State's water resources. Temperature increases could affect water demand and aquatic ecosystems. Changes in the timing and amount of precipitation and runoff could occur.

Climate change is identified in the 2005 update of the California Water Plan (Bulletin 160-05) as a key consideration in planning for the State's future water management. The 2005 Water Plan update qualitatively describes the effects that climate change may have on the State's water supply. It also describes efforts that should be taken to quantitatively evaluate climate change effects for the next Water Plan update.

3.6.2 Environmental Consequences

No Action

Under the No Action Alternative, the Tribe would not develop two new wells to supply water for domestic use production well. The Tribe would not be able to provide more dependable water supplies to the Reservation under emergency conditions. Under this alternative, there would be no effect on climate change.

Proposed Action

The Proposed Action, would allow Reclamation to provide ARRA funds to the Tribe for the purposes developing two new wells to supply water for domestic use. The Proposed Action would not include any significant change on the composition of the atmosphere and therefore would not result in adverse impacts to climate change.

Cumulative Effects

The Proposed Action would not result in adverse impacts to climate change and, therefore, would not contribute to cumulative impacts to climate change.

3.7 Environmental Justice

3.7.1 Affected Environment

According to the U.S. Census, in 2000 Humboldt County had a population of 125,543 people. Of that, 82% was white, as compared to the rest of the U.S. which was 75%. The American Indian population was 5.5%, as compared to the rest of the U.S. which was 0.9%. The median family income (in 2008 adjusted for inflation) was \$57,755, as compared to \$63,211 for the rest of the U.S. Twelve percent of the population was below the poverty level (U.S. Census, 2000).

According to the, Big Lagoon Tribal documents, total tribal membership is 25, with a reservation population of 24 in 2009. The Rancheria median family income was \$47,000 with 25% of the households at or below low income levels (Baldy, pers. comm., 2010).

3.7.2 Environmental Consequences

No Action

Under the No Action, Reclamation would not provide ARRA funds to the Tribe for the purposes of developing two new wells to supply water for domestic use. Without the additional well, in the event of a new drought emergency or failure of the water supply from the City, the tribe would not be able to provide drinking water for the Rancheria. There would be no impacts to environmental justice under the No Action alternative.

Proposed Action

The Proposed Action would not disproportionately affect minority or low-income communities. There would be a negligible increase in employment and income for the Tribe associated with this project, which would be entirely beneficial.

Cumulative Effects

The Proposed Action would not result in adverse impacts to environmental justice and, therefore, would not contribute to cumulative impact on environmental justice.

3.8 Indian Trust Assets

3.8.1 Affected Environment

Indian Trust Assets (ITAs) are legal interests in property or rights held in trust by the United States for Indian Tribes or individuals. Trust status originates from rights imparted by treaties, statutes, or executive orders. These rights are reserved for, or granted to, tribes.

Reclamation's policy is to protect ITAs from adverse impacts resulting from Reclamation programs and activities whenever possible. Types of action that could affect ITAs include an interference with the exercise of a reserved water right, degradation of water quality where there is a water right or noise near a land asset where it adversely affects uses of the reserved land.

The Big Lagoon Rancheria is an Indian Trust Asset and consists of approximately 42 acres of federal trust lands and non-federal trust lands.

3.8.2 Environmental Consequences

No Action

Under the No Action, Reclamation would not provide ARRA funds to the Tribe for the purposes of developing two new wells to supply water for domestic use. Without the additional well, the tribe would not be able to the water supply needs for the Rancheria. There would be no impacts to ITAs under the No Action alternative.

Proposed Action

The Proposed Action would allow Reclamation to provide ARRA funds to the Tribe for the purposes of developing two new wells to supply water for domestic use. The development of

two new wells would provide the Tribe with a reliable source of water. The Proposed Action would essentially provide a benefit to the Tribe. Construction would not adversely impact the Big Lagoon Rancheria (an ITA).

Cumulative Effects

The Proposed Action would allow Reclamation to provide ARRA funds to the Tribe for the purposes of developing wells to supply water for domestic use. The Proposed Action would have no cumulative impact on ITAs.

4.0 Growth-Inducing and Irreversible and Irretrievable Commitment of Resources

4.1 Growth-Inducing Effects

The Proposed Action would allow Reclamation to provide ARRA funds to the Tribe for the purposes of developing two new wells to supply water for domestic use. The Proposed Action would not directly remove obstacles to growth, result in population increases, or encourage and facilitate other activities that could significantly affect the environment. It is anticipated that land use in the project area would remain the same; therefore, there would be no growth-inducing effects as a result of construction of the proposed alternative.

4.2 Irreversible and Irretrievable Commitment of Resources

The Proposed Action would allow Reclamation to provide ARRA funds to the Tribe for the purposes of developing two new wells to supply water for domestic use. The installation would require equipment such as a drill rigs, excavator, and backhoe which consumes fossil fuels, and submerged pump which consumes metals such as aluminum and copper. For the operation of the wells, electricity supplied to the wells requires energy that could be supplied by hydropower, renewable sources, or burning of fossil fuels. Hauling water from the production well to facilities where the water would be needed during a drought or water emergency would consume fossil fuels.

5.0 Consultation and Coordination

5.1 Federal Laws and Executive Orders

The following federal laws were considered during the preparation of this EA and the evaluation of the potential impacts from the Proposed Action.

5.1.1 Endangered Species Act (16 USC. 1521 et seq.)

Section 7 of this Act requires Federal agencies to ensure that all federally associated activities within the United States do not jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of the critical habitat of these species. Action agencies must consult with the U.S. Fish and Wildlife Service, which maintains current lists of species that have been designated as threatened or endangered, to determine the potential impacts a project may have on protected species. Reclamation has determined that the Proposed Action would have “no effect” on federally proposed or listed threatened and endangered species or their proposed or designated critical habitat. No further consultation is required under Section 7 of the Endangered Species Act.

5.1.2 Migratory Bird Treaty Act (16 USC § 703 ET SEQ.)

The Migratory Bird Treaty Act implements various treaties and conventions between the U.S. and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Unless permitted by regulations, the Act provides that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Subject to limitations in the Act, the Secretary of the Interior (Secretary) may adopt regulations determining the extent to which, if at all, hunting, taking, capturing, killing, possessing, selling, purchasing, shipping, transporting or exporting of any migratory bird, part, nest or egg would be allowed, having regard for temperature zones, distribution, abundance, economic value, breeding habits and migratory flight patterns. The project does not include removal of trees that could have an effect on migratory birds.

5.1.3 National Historic Preservation Act (16 USC 470 et seq.)

The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation which outlines the Federal Government’s responsibility to cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking listed on cultural resources on or eligible for inclusion in the National Register of Historic Places (National Register). Those resources that are on or eligible for inclusion in the National Register are referred to as historic properties.

5.1.4 Environmental Justice (Executive Order 12898)

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations, as amended, directs federal agencies to develop an Environmental Justice Strategy that identifies and addresses disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations. According to the Council on Environmental Qualities guidance, agencies should consider the composition of the affected area to determine whether minority populations, low-income populations, or Indian tribes are present in the area affected by the proposed action, and if so where there may be disproportionately high and adverse environmental effects. The Proposed Action could have a negligible beneficial impact on environmental justice by temporarily increasing employment and income during installation of the new well.

6.0 List of Preparers and Reviewers

Tamara LaFramboise, Natural Resources Specialist
Amy Barnes, Archeologist
Steve Baldy, Big Lagoon Rancheria

7.0 References

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Appendix A

Photos

Big Lagoon Pictures



Picture from the new well site looking back to the clearing, here you can see the 20+ feet of clearing to be done to get to the access road at site #1



New well site #1



Picture in the clearing of existing well at site #1



Picture in the clearing looking back on the access road at site #1



Site #1 Looking down Big Lagoon Park Road from the access road to the Lynda Road. Power would come from the corner of Lynda Road and Big Lagoon Park Road to this point and then turn up the access road.



Site #1 Existing well in clearing on the 5-acre site



Site #1. Entrance to access road from Big Lagoon Park Road.



Site #2 Existing Water System



Site #2 Picture of existing water supply system from the road